

REPLY  
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FROM THE  
SURGEONS  
OF THE

LIVERPOOL NORTHERN HOSPITAL,

TO A  
PAMPHLET,

PUBLISHED BY

J. P. HALTON,

ONE OF THE SURGEONS OF THE LIVERPOOL INFIRMARY.

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"Justitiae partes sunt non violare homines;  
"Verecundiae non offendere."

~~~~~  
REVISED EDITION.  
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MDCCXLIV,



THIS

# PAMPHLET,

## VINDICATING

THE

MANAGEMENT

AND THE

SURGICAL PRACTICE

OF THE

Liverpool Northern Hospital,

IS INSCRIBED TO

THE PATRON, THE PRESIDENT,

AND

TO THE COMMITTEE,

WITH EVERY FEELING OF RESPECT.

By their Obedient,

and Faithful Servants

JOHN MAURICE BANNER,

HENRY STUBBS,

WILLIAM HENRY BAINBRIGGE,

HONORARY  
SURGEONS.

Fellows of the Royal College of Surgeons of England,



IN a pamphlet recently published by Mr. HALTON, an attempt has been made to prove, that the capital operations in Surgery, performed in the Infirmary, have been followed by a rate of mortality very much below what has occurred in other similar Institutions.

The objects of Mr. HALTON in this publication appear to be,

Firstly—To laud, the superior salubrity of the situation of the Infirmary, and its management.

Secondly—To prove, that the situation and management of the Northern Hospital, is a source of evil to the Public.

Thirdly—To shew, by the results of the operations of a good Surgeon, in a well ventilated and well managed Institution, that the general results, derived by Mr. PHILLIPS from the records of a number of Hospitals, in Europe and America, are either incorrectly stated, or, are attributable to the bad Surgery of their Medical officers, or, to an unhealthy site, and bad general management.

To effect these objects, he compares the results of his own operations during a period of twenty-two years, with a table published in the Medical Gazette, by Mr. PARKER, our House Surgeon, of the results of amputations during a period of seven years in the Northern Hospital; and with the results of 640 amputations performed in Hospitals in Europe, and America, collected by Mr. PHILLIPS, and

published in the same journal. When Mr. HALTON attacked the Surgical practice of the Northern Hospital, we think he ought to have consulted a pamphlet published by one of us, in the Edinburgh Medical and Surgical Journal, in which, the results of our operations in the severest forms are tabulated, and sufficient details given of the cases, to explain, what he calls our, "high rate of mortality." It is at least a satisfaction to know, that our mortality after amputations, is below the average result, recorded by Mr. PHILLIPS of his 640 cases, although we cannot boast of such apparent superiority, as that claimed by Mr. HALTON for his own practice.

Mr. HALTON has been encouraged, by the advice of a Medical friend, to sacrifice his *unwillingness* to appear in too prominent a position, for the advantage of the profession, "as it would probably induce other Hospital Surgeons "to follow the example; by which means we might ultimately obtain the important general record, the want of "which is so much felt at this crisis, to correct the, what "I believe to be, erroneous assertions put forth to the dis- "paragement of operative Surgery."

Had Mr. HALTON been better acquainted with modern Medical literature, he might have known, that he is not the first who has applied the science of statistics, to correctly appreciate the risk of an operation in Surgery; and thus have learned to have made use of numbers intelligently and fairly. When the science of statistics was first systematically recommended by Louis, as a proper means of settling many of the discrepancies in Medicine and Surgery, as to the relative value of

certain modes of treatment, objections were made to its adoption, by several very eminent practitioners, as leading with an appearance of exactness into great error. It was urged, that if a calculation be made upon observations incomplete, inexact, or collected with a biased spirit, into what errors will it not lead? This is however no objection to the method, but to the abuse which might accrue, from ill intention, or ignorance. Does not Mr. HALTON lay himself open to one or both of these charges? His results are calculations from facts, the number, and nature of which he has kept back from a *feeling of modesty*, which prevents him placing himself in too prominent a position; but at the same time, permits him to claim for his own practice, a superiority over that, of other Surgeons, attached to the first Hospitals in Europe, and America. We can assure Mr. HALTON that there are many of these Hospitals, in as salubrious situations, under as careful management, kept as scrupulously clean, and as well ventilated as the Liverpool Infirmary. He cannot, therefore, under the flimsy veil of a complimentary reference of the pre-eminence of the Infirmary, to its excellent site, and the careful management of its Committee, conceal, that he would have it inferred that this extraordinary success is only referrible to his own extraordinary merit.

Mr. HALTON gives us the proportion of deaths to recoveries, after capital operations, performed by himself during a period of twenty-two years, and places the success shewn, to the credit of the Infirmary. During four years of this period, he had no connexion with the Infirmary;

and if we understand aright his rather obscure explanation, he introduces the results of his own private practice; We find in Mr. HALTON's pamphlet, page 8, "with the impression on my mind of the experience of my own practice, that I resolved to refer to the records of the last twenty-two years. The first period of four years and a half, being occupied as Surgeon to the Dispensary, the latter, of nearly eighteen years, being engaged as Surgeon to the Liverpool Infirmary." And at page 28, "as my chief field of operation has been the Infirmary, I shall class my results in its name, though I believe it will suffer by it." These, and the operations performed in the Dispensary, have nothing to do with the site, and management of the Infirmary. He in another part, more distinctly attributes the success to his own merit. In page 9, he says, "the risk appears to me to lie in the manner in which it (the operation) is performed." In the following page, he suggests, that the high rates of mortality in other Hospitals, arise from the registry of badly performed operations, of which he gives two specimens as occurring in his own knowledge. We question the propriety and use of such allusions, and we feel ourselves called upon to state, for the information of those who do not understand them, that these mistakes did not occur in the Northern Hospital, nor in the practice of any of its Surgeons.

We regret with Mr. HALTON, that from the want of materials, he has been unable to give a record of the results of all the amputations, which have occurred in the Infirmary since he has been one of its Surgeons. Such a table fairly drawn out would be to the point. Can it be

true that the only *record* of the Surgical practice of that Institution, is contained in a brief statement of operations during two years? and that there is no other *record* of the Surgical practice of his colleagues? Where is the return made to a Committee of the House of Commons, of the operations and accidents, during the four years immediately preceding the establishment of the Northern Hospital, quoted by Mr. HALTON in his pamphlet?

If this report exist, and there be attached to it, the nature of the diseases and accidents, for which the operations were performed; a comparison of the several classes in it, with the similar classes in the full report published by one of us, in the Edinburgh Medical and Surgical Journal, might be fairly drawn, as the Infirmary at that time received all the accidents occurring in the town, the greater part of which were conveyed to the Northern Hospital, after its establishment. Mr. HALTON's pamphlet, though first published in the Medical Gazette, and consequently addressed to the profession, is yet in its new form, with its luminous dedication to the Committee, and its terminating appeal to the truly benevolent, evidently intended for non-professional readers, and upon these, its conclusions, apparently fair, will produce an erroneous impression. We have therefore great reason to complain of his omitting to mention, that there are some amputations attended with comparatively little risk, and others in which the chances of survival are small. The greater danger, being in general, from operations the results of accident, the lesser, in those consequent on Chronic disease.

To place in a table of results such cases as of equal value, is a deception. We should wish to have Mr. HALTON's

views of the relative risks of amputations in different subjects, under the varied circumstances of disease, age, sex, habits, and temperament; but we regret he is prevented by the limits he has prescribed to himself, from entering into the question at all. In commenting on the proportion of his deaths to recovery, he apologises for some taking place, where recovery, from the severity of the accident, could not be expected; but nowhere, does he mention the number or relative proportion of deaths to recoveries, after amputation for Chronic diseases and for accident. The present limited accommodation of the Northern Hospital, prevents Chronic cases of Surgical disease, from being admitted in anything like the proportion to accidents, that the Chronic diseases in the Infirmary, bear to the small number of accidents which are now admitted into that Institution. May we not infer that Mr. HALTON's report, as he calls it, is, of operations in cases where accidents form the exception, and Chronic diseases the rule. In the Northern Hospital, Chronic Surgical disease is rather the exception, and accident the rule. We conceive we are justified in this supposition by the following consideration. In all cases of amputation, the risk from the operation, is proportioned to its proximity to the body. In Mr. HALTON's table, the deaths from amputations of the thigh, are one in eleven, whereas in the less dangerous operation of the leg, they are as high as one in six. This apparent anomaly may be easily explained. The most common amputation for Chronic disease, is that of the thigh, for white swelling of the knee joint. This operation is most fre-

quently performed in young subjects, and is, or ought not to be performed, when complicated with visceral disease. A great number of these operations in an Hospital, would explain the success to which Mr. HALTON lays claim. In our table of amputations, performed in the Northern Hospital in the course of nine years and two months, we have nineteen amputations for disease of the thigh, and only one death. We have had during the last two years 15 amputations from both accident and disease, and one death. In the practice of one of us, there have been no deaths consequent upon the amputations performed by him. It would be however unfair, to ascribe this partial success to the superior Surgery, practised at our Hospital. We refer to our table in the appendix, for the severe nature of the injuries which have raised the mortality in amputations of the thigh, to one in 7 1-7th.\*

In the very admirable paper published by Mr. PHILLIPS, in the *Medical Gazette*, he states, as the result of his researches, that he found "in certain Hospitals, "the mortality after amputation, has exceeded 53 per cent. ; in several it has not exceeded 12 per cent., and "in one of the number, out of twenty amputations, there "has been only one fatal result." Mr. HALTON objects to Mr. PHILLIPS not specifying the Hospitals in which such extremes occurred, in order, we presume, that each should receive its appropriate censure, or praise ;

* Amputations of the Thigh in Ten Years, 29.	Cured.	Died.
Of these, for Accidents .....	10.	3
, for Disease .....	19.	1
	29.	4

Four Deaths in 29; or, One in 7 1-7th

but we conceive, that in acting thus, Mr. PHILLIPS has exercised a wise discretion. He does not think that the great mortality in the one case, and the great success in the other, are necessarily indications of better or worse management; but, points out, in another passage, how extreme differences in the results, may depend upon differences in the nature of the accident or disease, and on differences in the general age, habits, &c., of the individuals operated upon in the several Institutions.

We will take the liberty of quoting a passage from Mr. PHILLIPS' paper, to which, if Mr. HALTON had paid attention, he might have found an easy solution of the extraordinary difference, *if it exist*, between the results of operations in the Infirmary, and in the Northern Hospital. "It may be thought that there are many sources of fallacy in investigations like the present, that certain Hospitals are placed under peculiar circumstances, and that the results furnished by them would not be a fair representation of the whole. It is true that there are many Hospitals so situated either permanently, or in particular periods, as to render it probable that the results of amputations would be very unfavourable. In certain manufacturing Towns, a large number of accidents are produced by machinery. In such cases the injury may not be limited to the limb, which it may be thought prudent to amputate, and the death of the patient may be a consequence of the accident, and not of the amputation. Other Hospitals may be peculiarly the receptacles of Chronic disease. An improved system of treating such diseases may be employed there, and the

" number of amputations may be small ; but from that " very circumstance, from the operation being performed " as a really last resource, the result of such amputations " might be unfavourable." " I have therefore selected " such Hospitals as would produce something like an " antagonism in this respect, and would render the results " shewn, a fair representation of what actually occurs."

(*Vide Phillips' Medical Gazette, Vol. 22, Page 459.*

We hope to be able to shew from a reference to the tables in the appendix, that the accidents for which in general, amputations have been performed in the Northern Hospital, place it in the first category ; and without taking credit for any improved mode in the treatment of Chronic disease, we may attribute our inferior success if it exist, in the amputations of this nature, to circumstances in the cases, which place them in the category of operations performed as a really last resource. We think we may fairly infer that the Infirmary is now one of those Hospitals, which Mr. PHILLIPS would select, as producing an antagonism to the Northern Hospital.

A difference of opinion as to the propriety of operating at once after an accident, or of waiting until the symptoms occasioned by the shock, or, of collapse have subsided, may produce great difference in the proportions of deaths to recoveries after amputation, according as either one or other of these plans, is adopted exclusively. This is a dispute in which many eminent Surgeons have taken different sides and "ad huc sub judice lis est." It is a question, whether it be wiser to run the risk, of leaving the patient to die without operation, from the irritation

arising from the extreme severity of the accident, or, to run the risk of adding to the depression of the nervous system, by inflicting in the operation an additional injury. This dispute is well illustrated by the difference of opinion expressed with regard to the treatment of Mr. HUSKISSON's melancholy accident.

It is obvious that in an Hospital where one system, that of waiting, is exclusively adopted, there would be fewer deaths after amputations in such cases, because there would be no amputation performed until after the collapse had gone off, but it is doubtful whether there would be less mortality. We insist upon this distinction being attended to, because we find in Mr. HALTON's report, fifty instances of compound fracture in which amputation was not performed, but in which incisions were made and pieces of bone removed, of which eight died. Now without pretending to say that Mr. HALTON did not exercise a proper discretion in not amputating in the cases where death took place ; it will be seen from our *precis* of amputations, operation was performed in cases of equally severe complication, often with a fatal result, but at the same time sufficiently often with a favorable one, to justify the propriety of the proceeding. In table III. (appendix) we refer to cases 2, 4, 5, 6, 7, 9, 22, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38 and 39, in which from the severity of the complications, and the presence of extreme collapse, no attempt was made to amputate, and the patients were left to the chance that collapse would subside, and the operation might be performed under more favorable circumstances. In one of these cases Erysipelas supervened,

upon an individual in whom there were four compound fractures. In two others, extensive emphysema, complicated compound fracture of the leg, and fracture of the ribs. All medical men understand the danger of this complication, which indicates more or less injury to the lungs. In table IV, cases 2 and 12, and in table V, cases 2, 8, 10, 11, and 34, are instances in which amputations were performed in the case of severe complications, profound collapse, and haemorrhage, and were followed by death. In table IV, case 1, and in table 5, cases 9, 17, 18 and 35, are instances of amputations performed under similar circumstances of severe complication, with successful results. We refer to these tables in general, as confirmatory of our statement, that the accidents for which amputations have been performed were extremely severe; and in those cases in which death followed, the amputation was performed in the face of circumstances, in which had we not been anxious to afford the patient the smallest possible chance, we might have been justified in not operating at all, and thus have saved our credit, by diminishing the proportion of deaths in our amputations, without however in the least diminishing the mortality in the Hospital. In none of these fatal cases, can death be imputed to the bad situation, or defective management of the Hospital.

Since the establishment of the Hospital, there have been forty amputations for disease, of which five died; but of these five, two died some months after the stumps had healed, from causes having no connection with the operation, vide table VI, cases 4 and 26, one being pulmonary

apoplexy, the other a sudden death, not explained, from inability to procure a post mortem examination. The exception of these two cases reduces the proportion of deaths in amputations for disease, to 1 in  $13\frac{1}{2}$ . Of these amputations, one successful case was at the shoulder joint, and another was a case, in which, in an extremely debilitated subject, both legs were removed, one five days after the other.

Two operations of excision of the elbow joint were successfully performed. This operation is attended with more risk to the patient from the extent of the injury inflicted, than many amputations of limbs. Two cases of unlimited fracture, one of the Femur, the other of the Tibia, were cut down upon, the ends of the bones sawed off, and union effected. One operation of extirpation of a great portion of the os calcis, for disease, was successfully performed.

Table I. contains an account of the results of the treatment of simple, simple comminuted, and compound fractures, from the opening of the Hospital, to the 31st Dec. 1843. From this table it appears, that there have been 907 simple, simple comminuted, and compound fractures, of which, 755 were simple and comminuted, and 152 were compound.

Of the 755 three died, being cases of fracture of pelvis; of the 152 compound fractures, six died, being of the lower extremities. Tables II. and III. contain the results of severe compound complicated fractures of the upper and lower extremities, which were not operated upon; of these there are 59 cases, of which 25 died — 17

in the upper extremity, of which 3 died; and 42 in the lower extremity, of which 22 died. In these tables are contained the worst cases of surgical accidents, which have entered the Hospital, and we call attention to the severe nature of the complications in the fatal cases, as sufficiently explanatory of the results.

In Mr. HALTON's attempt to account for the very questionable "*pre-eminence*" of the practice of the Infirmary, over that of the Northern Hospital, he thinks it probable, that the healthy situation of the Infirmary, its cleanliness, and superior ventilation, may have *contributed* to that success. We find no fault with the glowing eulogium upon the situation, cleanliness, and ventilation of the Infirmary; but we maintain that Mr. HALTON's description of the disadvantages of the present Northern Hospital, is exaggerated, and unfair. Although situated in a part of the town, where disease and wretchedness prevail to the greatest extent, it is yet by its situation, internal management, and ventilation, however imperfect, freed from all the evil influences which make Vauxhall ward so very unhealthy, and which have been so well described by Dr. DUNCAN. There is no building within one hundred yards of two faces of the Hospital, and the nearest warehouse is at least two hundred yards distant. Opposite to a greater part of the third side, in Leeds-street, is a large flag-yard, from which no mephitic exhalation can arise; between the Hospital and the Canal, are coal-yards, and from the Canal no danger need be apprehended, its waters being constantly renewed by fresh streams from the country. We claim for the Committee of the Northern Hos-

pital as great attention to cleanness, and to its general management, as Mr. HALTON attributes to the Infirmary Committee: and although our ventilation is not perfect, from the circumstance that the building was not erected for its present purposes, but has been formed from two large and excellent dwelling-houses, yet very great improvements in the ventilation have been effected by the attention of its managers. Erysipelas, the scourge of many Hospitals, is comparatively rare, and there have been very few cases of Idiopathic Erysipelas for some years. The evil influences denounced by Mr. HALTON, ought to produce their effects upon all cases, Medicinal, and Surgical indiscriminately, yet, we are prepared to shew, from the comparative mortality of the two Hospitals, that the results are, if anything, in our favour. From an average of four years, we find the mortality, in the general cases admitted into the Northern Hospital to be as low as  $6\frac{1}{2}$  per cent., whereas, in the Infirmary it is 7 per cent. The average mortality of 63 European Hospitals (German, French, Swiss, Belgian, Dutch, Italian, and English,) is  $8\frac{1}{2}$  per cent. The nature of the cases may be roughly estimated, by the duration of the treatment. The longer average duration will indicate the prevalence of cases of Chronic disease. The average duration of the treatment during the last four years in the Northern Hospital, is 17 days.\* The average duration in the Infirmary during the last two years, is 31 days; supposing the daily cost of each patient in each Institution to be the

\* At page 39, a difference appears to the above calculation, in our average duration of treatment, for the year 1843. In consequence of 352 out-patients being excluded from the total of 1588, admitted during the year.

same, our patients cost the Hospital a little more than one-half of the cost of the Infirmary cases. The average duration of the treatment in three German, and ten Parisian Hospitals, is 28½ days. From these remarks, we may infer that in the Northern Hospital, the average of the cases is of acute diseases, as the duration of the treatment is short, and that its situation and management are not very bad, as the comparative mortality is small. Although we think ourselves justified in making these inferences from the facts stated in favour of the situation, and management of the Northern Hospital, it is far removed from our belief, that the same mode of reasoning applied to other Hospitals, ought, with justice, to condemn either their situation or management. There are circumstances in the history of these Hospitals, with which we are not acquainted, such as the number of beds, the nature of the diseases which are admitted, or excluded, the average age, and condition of the patients, &c. &c.; which, if rightly appreciated, would probably place the Hospital making the worst return, upon the level of that making the most favourable. We will illustrate this by two cases; in the Catharine Hospital at Stuttgart, we have an average duration of treatment of 21 and 4-5th days, being indicative of the prevalence of acute disease, with an exceedingly low rate of mortality, being only 2½ per cent. In the Hospital Neckar, in Paris, the average duration of treatment is from 33 to 34 days, and the mortality is as high as 13 per cent. The high character of the French Hospital management, prevents us from assuming the superiority in which the mere consideration of numbers, apart from

other circumstances, would place us, and justifies us in supposing that our inferiority to the Stuttgart Hospital, may be equally explicable, by the consideration of all the circumstances. We believe that in the Hospital Neckar, Consumption forms a large proportion of the diseases treated; its duration is long, and its termination necessarily fatal. From the limited accommodation of our Hospital, such cases are as much as possible excluded, and when admitted, on the first favourable opportunity they are removed.

The claim of advantage, in the nearer vicinity of the residences of the Honorary Surgeons to the Hospital, is absurd. Mr. HALTON should remember, that the Hospital is for the benefit of the patients, and not for the convenience of the Surgeon. How is it possible, that a man can be the better, for being carried at least a mile farther from the place of accident, with a fractured limb, complicated with Haemorrhage? At both Hospitals, he would receive immediate assistance from well educated resident Medical Assistants, Members of the Royal College of Surgeons, quite competent to meet any emergency; and, we are not aware of any case in either Medicine or Surgery, under such circumstances, in which the delay of half, or three-quarters of an hour in the arrival of the Honorary Officer, is likely to produce any difference in the result.

We have a right to presume that the object of the subscribers to the Public Charities in Liverpool, is to afford the greatest possible amount of relief to the sick poor. It is the duty, as it is the province of the Medical Men attached to these Charities, to supply the infor-

mation which their experience affords, of the best methods by which this object may be attained ; and it is our opinion that they will more advance the cause of Charity, by pointing out the defects in the management of their own Institution, than by dwelling on their merits. A flaming self-laudatory report satisfies the public with the good that is done, but is apt to turn away their attention from the greater good, which the same means might accomplish. We are far from satisfied that the Northern Hospital is as efficient as it might be. We wish a better ventilation, and that the wards were less crowded ; and we wish more especially in the Medical department, that we had fewer cases of Chronic diseases, and more of the acute affections, for which such establishments are properly intended, and which we well know exist among the poor, and are treated at their dwellings, under the most unfavorable circumstances. It has long been the wish of the Committee, and Medical Board of our Hospital, to remedy the two first defects, and we have now an early prospect of being able to do so, by the erection of a building, adequate to the importance of the Institution to the public. The medical men of the Infirmary, are equally well aware with ourselves, that their wards are filled with cases of Chronic disease to the exclusion of the more acute forms. The substitution of the latter, for the former, would swell the rate of mortality in both Hospitals, but would nevertheless increase the utility of the Hospitals to the Public. It would be a means of proving to the more wealthy inhabitants, the dire extent of misery which prevails among their poorer fellow citizens, which calls for

relief, and when heard has always been warmly responded to by the Inhabitants of Liverpool. The Machinery for effecting this purpose is at hand. The Medical Officers of the Dispensaries, and the Visitors of that most excellent Charity the District Provident Society, come, in the performance of their duties, into immediate contact with the objects of disease; if the former were to co-operate with the latter, in selecting the most fit objects for the Public Hospitals, and the Managers of the Hospitals place at the disposal of the Visitors the power of filling up their vacant beds, the objects of Charity would be more effectually served, and the necessity of even more extended Hospital accommodation clearly demonstrated.

We have laid before the public, a statement of the Surgical practice of the Northern Hospital, and have compared the results with those of the Infirmary, and other Institutions, as far as we have access to them, with the object of defending ourselves and the Hospital, from a most unjustifiable attack. We have no wish, from anything we have brought forward in our own defence, that conclusions prejudicial to the Infirmary, or any other Medical Charity, should be drawn; and we hope it is clear from the grounds of our defence, that no such conclusions can be warranted. We are far from believing there is no room for improvement in any of our Public Institutions; the best way to arrive at the cause of any defects requiring remedy, is, by comparing the results of different managements and modes of treatment; we are anxious to co-operate with Mr. HALTON, his Colleagues, and the other Medical Functionaries, in exposing the defects in the

management of our own, and other Institutions, and we believe our success will be the greater, the more we carry on our investigation in the spirit of that Charity, which it ought to be our common object to promote.

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ERRATA—In page 16, line 13, read *ununited* for unlimited, and page 17, line 17, read *where* for *were*.



TABLE I.

*Simple and Compound Fractures which have been treated in the NORTHERN HOSPITAL, from March 10th, 1834, to the 31st December, 1843, with the results.*

## UPPER EXTREMITY.

## LOWER EXTREMITY.

Simple and Comminuted Fractures.			Compound Fractures.			Simple and Comminuted Fractures.			Compound Fractures.				
Bone.	No. of Cases	Cur'd	Died.	No. of Cases	Cur'd	Died.		No. of Cases	Cur'd	Died.	No. of Cases	Cur'd	Died.
Clavicle..	45	45	0	1	1	0	Femur ..	161	161	0	17	16	1
Scapula..	10	10	0	0	0	0	Tibia ...	29	29	0	0	0	0
Humerus	64	64	0	14	14	0	Fibula...	45	45	0	0	0	0
Radius...	48	48	0	0	0	0	Tibia & Fibula...)	188	188	0	100	96	4
Ulna....	21	21	0	0	0	0	Patella...	13	13	0	0	0	0
Ulna & Radius .)	112	112	0	19	19	0	Tarsus ..	9	9	0	1	0	1
							Pelvis...	10	8	3	0	0	0
Total..	300	300	0	34	34	0	Total..	455	453	3	118	112	6

## 9 YEARS 10 MONTHS, NORTHERN HOSPITAL.

## 2 YEARS, INFIRMARY.

Simple Comminuted Fractures.	No. of Cases.	Deaths.	No. of Cases.	Deaths.
Upper Extremity .....	245	0	34	2 or 1 in 17
Lower Extremity .....	444	0	82	3 „ 1 „ 27 $\frac{1}{3}$
Bones of Trunk .....	66	3 pelvis	32	1 „ 1 „ 32
	755	3, or 1 in 251 2-5ths	148	6, or 1 in 24 $\frac{1}{3}$
Compound Fractures.				
Upper Extremity .....	34	0	5	1 or 1 in 5
Lower ditto .....	118	6 or 1 in 19 $\frac{2}{3}$	13	4 „ 1 in 3 $\frac{1}{3}$
	152	6 or 1 in 25 $\frac{1}{3}$	18	5 „ 1 in 33-5ths

From this TABLE, it appears, from a mere statement of numbers, without detail of circumstances, that the mortality in the Infirmary, in cases of Simple Fracture is between 10 and 11 to 1, as compared with that in the Northern Hospital. In compound Fractures as 8 to 1.

TABLE II.

*Complicated Fractures of Upper Extremity.*

## SCAPULA, CLAVICLE, HUMERUS, RADIUS, AND Ulna.

		Cured.	Died.
1	Fracture of the Clavicle,—Neck of Scapula, third and fourth ribs,—extensive Emphysema .....	1	0
2	Compound comminuted Fracture of both Ossa Humeri, (explosion of cannon).....	1	0
3	Fracture of Humerus, and Ribs—extensive emphysema.	0	1
4	Compound comminuted Fracture of Humerus, with extensive contusion and laceration of Muscles .....	1	0
5.6.7	Three cases of Dislocation of Elbow Joint, Radius, and Ulna forwards, with Fracture of inner Coudyle ....	3	0
8	Compound Fracture of Radius and Ulna, extensive laceration of Muscles .....	1	0
9	Compound Comminuted Fracture of Radius and Ulna of both Arms, considerable laceration of soft parts. Collapse .....	0	1
10	Comminuted Fracture of Radius, and Dislocation of Wrist Joint .....	1	0
11	Simple Fracture of Radius; Dislocation of Wrist Joint	1	0
12	Compound Fracture of the Arm, Concussion of Brain. Collapse .....	0	1
13	Compound Dislocation of Wrist, severe laceration and Fracture of Radius—from bite of a horse.....	1	0
14	Compound Fracture of Humerus, comminuted Fracture of Patella.....	1	0
15	Compound Dislocation of Elbow backward, with Fracture of Radius .....	1	0
16	Compound Fracture of Ulna, dislocation of Elbow, fracture of both Radii .....	1	0
Total 16 cases, of which .....			13 3

## TABLE III.

*Complicated Fractures of Lower Extremity, including*

## PELVIS, FEMUR, TIBIA, AND FIBULA

		Cured.	Died.
1	Fracture of Pelvis, extensive laceration of Perineum..	1	0
2	Compound fracture of Ilium, fractures of both Femurs. Extreme collapse .....	0	1
3	Fracture of Pelvis, rupture of Urethra; lived 20 days, a portion of descending ramus of the Pelvis found perforating the Bladder.....	0	1
4	Compound Fracture of right Femur, simple fracture of left, compound fracture of Humerus, simple fracture of fore-arm.....	0	1
5	Compound Fracture of both Thighs, fracture of right Tibia and Fibula. Died of Erysipelas .....	0	1
6	Compound Fracture of Femur, laceration of Femoral Artery. Extreme collapse .....	0	1
7	Compound Fracture of Femur, extensive contusion of soft parts—caused by machinery. Collapse .....	0	1
8	Fracture of Femur, contusion of Abdomen (Peritonitis).	0	1
9	Compound Fracture of Femur, with Fracture of Skull, and compression of Brain.....	0	1
10	Compound Fracture of Femur, with considerable laceration of Muscles .....	1	0
11	Compound Fracture Femur, Tibia, and Fibula .....	1	0
12	Fracture of Tibia and Fibula, Dislocation of Ankle Joint	1	0
13.14.15.16.17.18.19.20	Eight cases of Fracture of Tibia and Fibula, with Dislocation of Ankle Joint .....	8	0
21	Oblique Fracture of Tibia into Knee-Joint, with Fracture of Fibula .....	1	0
22	Compound Fracture of right Tibia and Fibula, simple fracture of left Tibia and Fibula, dislocation of Ankles, Fractures of Astragalus, laceration of Foot. Extreme collapse .....	0	1
23	Compound Dislocation of Ankle Joint, with Fracture of inner Malleolus .....	0	1
24	Compound Fracture of Tibia and Fibula, with severe laceration of Muscles .....	1	0
25	Compound Dislocation of Ankle Joint, with Fracture of Tibia .....	1	0
	Carried forward ....	15	10

		Cured.	Died.
	Bronght forward....	15	10
26	Compound Dislocation of Ankle Joint, with fracture of Tibia and Fibula .....	1	0
27	Compound Fracture of Tibia and Fibula, Fracture of Ribs, extensive Emphysema .....	0	1
28	Fracture of Tibia and Fibula, extensive laceration, followed by sloughing .....	1	0
29	Fracture of Tibia and Fibula, Dislocation of Wrist, concussiou of Brain .....	0	1
30	Compound Fracture of Tibia and Fibula, ditto of Radius and Ulna; laceratio and contusio of Muscles; collapse .....	0	1
31	Compound Fracture of Tibia and Fibula; laceration of Muscles. Gangrene.—Old Man .....	0	1
32	Fracture of Femur; Compound comminuted Fracture of Radius and Ulna of right Arm; simple Fracture of left Fore-arm.—Age 78.....	0	1
33	Compound Fracture of Os Calcis, followed by Fever ..	0	1
34	Fracture of Femur; severe Concussiou of Brain.....	0	1
35	Compound Fracture of Tibia, and extensive Burn, from the fire in Great Howard-street.....	0	1
36	Fracture of Tibia and Fibula; Fracture of Elbow and Ribs; Emphysema .....	0	1
37	Compound Fracture of right Femur, simple Fracture of left; Injury of Head .....	0	1
38	Compound Dislocation of Ankle; Fractured Tibia; Sloughing.—Age 71 .....	0	1
39	Fractured Neck of Thigh Bone, followed in four days by Sloughing and Sores.—Age 76 .....	0	1
40	Comminuted Fracture of Femur; Fracture and contusion of Leg; severe Laceration of Hand .....	1	0
41	Fracture of Tibia and Fibula; Concussion of Brain; Wound of Knee.....	1	0
42	Severe compound Fracture of Tibia and Fibula; simple Fracture of Tibia into Ankle Joint .....	1	0
43	Fractured Neck of Femur; Fracture of Ramus Ischii..	1	0
Giving 43 cases, of which 21 Recovered—22 Died.			21 22

Until more detailed information is given of the cases in the Statement of the Liverpool Infirmary in the tenth table, it is presumed, that the majority of the cases of complicated Fracture of the Lower Extremity in the above table, are parallel with them. Taking from the

recoveries in the above table, 8 cases of Fracture of Tibia and Fibula, with Dislocation of Ankle Joint, we shall consider the cases as exactly parallel. We shall then have

18 Recoveries out of 35, in the Northern Hospital,  
1 Recovery out of 12, in the Infirmary.

TABLE IV.

*Compound Fractures and Dislocations of Upper Extremity, followed by Amputation, from March 10th, 1834, to December 31, 1843.*

		Cured.	Died
1	Compound Fracture of Humerus; laceration of Brachial Artery high up; amputated four hours afterwards, when slight reaction took place after great collapse. Age 54.....	Arm	1 0
2	Compound comminuted Fracture of the Radius and Ulna of both Arms, with extensive laceration of the Muscles, Nerves, &c., considerable contusion, and laceration of right Thigh, severe symptoms of collapse, which had somewhat abated when both Arms were amputated; died upon the second day. Age 55 .....	Two Arms.	0 1
3	Compound Dislocation of the Elbow; admitted 20th, Traumatic Gangrene came on 25th, when Arm was amputated. The Brachial Artery was torn across Age 32 .....	Arm.	1 0
4	Compound Fracture of the Arm; Hand nearly torn off, amputated same day.—Age 12 .....	Arm.	1 0
5	Compound comminuted Fracture of the Radius and Ulna, with extensive contusion and laceration of the Muscles.—Age 14 .....	Arm.	1 0
6	Compound Fracture of the Carpal and Metacarpal bones, severe laceration of the Muscles and Tendons of Hand.—Age 24 .....	Fore-arm.	1 0
7	Compound Fracture of the Bones of the Wrist, and extensive laceration of the Muscles and Tendons. Age 58 .....	Fore-arm.	1 0
8	Hand torn off, with Fracture of Radius and Ulna; amputated same day.—Age 27 .....	Fore-arm.	1 0
9	Compound Dislocation of the Elbow Joint, Gangrene affected Limb on third day; Artery found torn across .....	Arm.	1 0
	Carried forward....		8 1

		Cured.	Died.
	Brought forward....	8	1
10	Compound Dislocation of Wrist, with severe laceration of Flexor Tendons; Amputation same day.—Age 57	1	0
11	Compound Fracture of Bones of Carpus, extensive laceration of Hand; amputated same day. Age 19.	1	0
12	Severe laceration of Muscles, Nerves, and of the Arm, nearly as high as the Shoulder, (Arm drawn under a mill-stone, which passed entirely over it,) considerable hæmorrhage, very weak pulse, cold surface; Amputated at Shoulder Joint on the 12th April, on the 18th, Phlegmonous Erysipelas in the opposite Arm and Shoulder came on, and brought the case to a fatal termination on the 20th Age 65 .....	0	1
13	Incised wound of Wrist—wound of Radial Artery—lost a large quantity of blood before he reached the Hospital; both extremities of Arteries secured. In a fortnight after the accident, the Hand sloughed. On the separation of the sloughs considerable hæmorrhage ensued. Gangrene extended as high as the Elbow. The Arm was amputated. Stump healed well. Abscess formed in pectoral muscle a month after amputation. At this time he expectorated pus, was removed into the country and subsequently died Hectic.....	0	1
14	Compound Dislocation of Elbow, Traumatic Gangrene, amputated 4th day .....	1	0
15	Laceration of Hand from Machinery.....	1	0
16	Compound Fracture of Radius into Joint. Traumatic Delirium .....	1	0
17	Compound Fracture of Wrist.....	1	0
18	Dislocation of the Femur into the Dorsum of Ilium. Compound Dislocation of Wrist. Comminuted Dislocation of Radius and Ulna of same Arm, laceration of soft parts. Arm amputated same day; this man never recovered from collapse, age 43, Arm	0	1
Total amputations after compound Fractures of Upper Extremity		14	4

Exclude case 13 which died out of Hospital after the stump was healed.  
3 deaths in 17, or 1 in 5½.

TABLE V.

*Amputations after Compound Fractures and Dislocations of Lower Extremity, from March 10th 1834 to December 31st, 1843.*

		Cured.	Died.
1	Fracture of Tibia into Knee Joint, Rupture of Popliteal Artery, 8 hours after accident, age 30 .....	Thigh	1 0
2	Fracture of Tibia into Knee Joint, Laceration of Popliteal Artery. Collapse. Amputated same day. Age 38 .....	Thigh	0 1
3	Compound Fracture of Femur. Dislocation of Knee. Rupture of Popliteal Artery; amputated same day. Age 15 .....	Thigh	1 0
4	Compound Fracture of Femur, with extensive contusion and laceration of the Muscles; amputated same day.—Age 15.....	Thigh	1 0
5	Compound Fracture of Femur. Compound Fracture of Tibia and Fibula. Severe contusion of soft parts, amputated same day.—Age 45 .....	Thigh	1 0
6	Compound Fracture of Femur into Knee Joint, amputated same day.—Age 29 .....	Thigh	1 0
7	Compound Fracture of the Tibia and Fibula. Laceration of Anterior Tibial Artery. An old Soldier of dissipated habits. The Leg was amputated two days after the accident. He died four months afterwards from repeated collections of pus in various parts of the body, age 56 .....	Leg	0 1
8	Compound Fracture of the Tibia and Dislocations of Ankle Joint. He was not brought into Hospital until two days after the injury. The inflammatory symptoms were so severe that amputation could not be performed until the 22nd day after accident, age 61 .....	Thigh	0 1
Carried forward....			5 3

		Cured.	Died.
	Brought forward....	5	3
9	An Africain. Compound Fracture of the Tibia and Fibula, with extensive laceration and contusion of the soft parts. Amputated as soon as the symptoms of collapse were somewhat relieved. Stump healed well. Abscesses afterwards formed on different parts of the body. The cause of death was Abscess in the Brain, age 32 .....	Leg	0 1
10	Fracture of Tibia and Fibula; Dislocation of Ankle, Traumatic Delirium presented itself on the fourth day, when amputation was performed. He died never having recovered from Delirium. Irregular life—drank hard. Fibula found broken in two parts at its lower third. At this part, the bone was so splintered as to form projecting points of one and two inches penetrating Muscles and causing great irritation, age 44 .....	Thigh	0 1
11	Compound Dislocation of both Ankle Joints, extensive laceration and haemorrhage. Collapse extreme; after waiting six hours right Leg amputated. Increased depression; after 14 hours left Leg amputated; died following day. Had fallen into a deep dry well. Each os Calcis much Fractured. Rupture of Spleen; large quantity of bloody Serum diffused into Cavity of Chest, age 41 .. Two Legs		0 1
12	Fracture of Tibia and Fibula; wound of Anterior Tibial Artery; amputated on third day after accident, age 60 .....	Leg	0 1
13	Compound Dislocation of the Ankle Joint and Fracture of the Tibia and Fibula; amputated same day; died two months after operation from excessive suppuration, age 24.....	Leg	0 1
14	Compound Fracture of Tibia and Fibula, laceration of Muscles, wound of Tibial Artery, age 32 .. Leg		1 0
15	Simple Fracture of Tibia, with symptoms of internal Haemorrhage coming on in six hours after admission; amputated same evening above Knee, age 57 .....	Thigh	1 0
	Carried forward....	7	8

		Cured.	Died.
	Brought forward....	7	8
16	A Pilot in excellent health and of good constitution, Compound Fracture of Tibia and Fibula, extensive contusion and laceration, caused by the breaking of a strained rope which coiled round his Leg, age 22 .....	Leg	1 0
17	Compound Fracture of Tibia and Fibula into the Ankle Joint, with extensive haemorrhage, caused by falling of a large stone; amputated immediately during the collapse—collapse very urgent, age 31..Leg	1 0	
18	Compound Fracture of Tibia and Fibula with extensive Laceration; amputated as soon as he rallied a little from the collapse occasioned by the shock, age 27 .....	Leg	1 0
19	Compound Fracture of the Tibia and Fibula, with extensive laceration of Muscles and Tendons of the Foot; amputated same day, age 29 .....	Leg	1 0
20	Compound Fracture of the Tibia and Fibula, with severe contusion and laceration of the soft parts; amputated same day.—Age 28.....	Leg	1 0
21	Fracture of Tibia and Fibula into the Ankle Joint, extensive suppuration; amputated 2nd week.—Age 32.....	Leg	1 0
22	Compound Fracture of Tibia into Ankle Joint—Laceration of the Anterior Tibial Artery—immediate amputation.—Age 13 .....	Leg	1 0
23	Compound Dislocation of Ankle Joint with Fracture of Tibia, amputated same day.—Age 50.....	Leg	1 0
24	Compound Fracture of the Tibia and Fibula, admitted 17th Sept, amputated 12th October.—Age 52 Leg	1 0	
25	Compound Fracture Cuboid Bone; wound of Foot followed by Traumatic Gangrene, admitted 10th June, amputated 29th August.—Age 63.....	Leg	1 0
26	Compound Fracture of Bones of Foot, partial amputation.—Age 30 .....	1 0	
27	Fracture of Tibia and Fibula and contusion, admitted 8th February, amputated 18th, in consequence of Traumatic Gangrene.—Age 37 .....	Leg	1 0
28	Foot torn off by machinery; amputated same day. Age 24 .....	Leg	1 0
	Carried forward....	29	8

		Cured.	Died.
	Brought forward....	29	8
29	Compound Fracture of Tibia and Fibula, accompanied by severe laceration of the Muscles; amputation same day.—Age 29 .....	Leg	1 0
30	Compound Dislocation of Astragalus. Fracture of Fibula; amputation same day.—Bad constitution—hard drinker. Age 64 .....	Leg	1 0
31	Compound Fracture of the Tibia and Fibula; extensive laceration of Muscles from machinery; amputation same day.—Age 38 .....	Leg	1 0
32	Compound Dislocation of Ankle Joint, Fracture of Tibia and Fibula; haemorrhage; amputated same day. Age 26 .....	Leg	1 0
33	Compound Fracture of Tibia and Fibula; laceration of Artery and Muscles; amputated same day.—Age 42. ....	Leg	1 0
34	Compound Fracture of the Tibia and Fibula, with severe injury to soft parts of Arm; Haemorrhage; both extremities amputated on the same day; collapse. He never rallied from the shock. Age 43. Arm & Leg.		0 1
35	Compound Fracture of Femur; Traumatic Gangrene spreading .....	Thigh.	1 0
36	Compound comminuted Fracture of right Os Calcis; comminuted Fracture of left Leg; right Leg amputated below the Knee.....	Leg	1 0
37	Foot literally smashed.....	Leg	1 0
38	Compound Fracture; Tibia and Fibula.....	Leg	1 0
Total amputations after compound Fractures and Dislocations of Lower Extremities.....		29	9
Ditto Upper Extremities .....		11	4

Total amputations after compound Fractures and Dislocations 43 13

Giving one death in four two-ninths in amputations of Lower Extremity  
Ditto one do. four and a half Upper Extremity.

Take away cases 7 and 9, Table V., and case 13, Table IV., the deaths which took place several months after operation from causes totally unconnected with the amputation, and we have

7 deaths in 38 or 1 in  $5\frac{1}{2}$  in amputation of Lower Extremity.  
3 deaths in 18 or 1 in 6 do. in Upper Extremity.

## TABLE VI.

*Cases of Amputation after Disease from March 10th 1834 to  
December 31st 1843.*

			Cured.	Died.
1	Serofulous Ankle Joint, with Abscess .....	Leg.	1	0
2	Extensive Necrosis of Femur, Abscess in Knee Joint, .....	Thigh	1	0
3	Diseased Bones of Knee Joint .....	Thigh	1	6
4	Mortification of Feet, died some months afterwards, suddenly. No post mortem examination, Two legs		0	1
5	Diseased Knee.....	Thigh	0	1
6	Diseased Bones of Ankle Joint. Heetic .....	Leg	1	0
7	Ulcer of Cartilage of Knee Joint ditto.....	Thigh	1	0
8	Diffused Aneurism of Femoral Artery.....	Thigh	1	0
9	Contraction of Leg after Phlegmonous Erysipelas and Sloughing.....	Thigh	1	0
10	Ulceration of Bones of Ankle. Heetic, Peritonitis, supervened upon the fourth day.....	Leg	0	1
11	Ulceration of Cartilages, and disease of heads of bones in Knee Joint. Heetic .....	Thigh	1	0
12	Phlegmonous Erysipelas Leg, terminating in extensive abscess in Knee Joint. Hectic extreme; Cartilage of Joint absorbed.....	Thigh	1	0
13	Gangrene of Foot .....	Leg	1	0
14	Gangrene of Arm after Phlegmonous Erysipelas, for which he was admitted. Amputation at Shoulder Joint.....	Shoulder Joint	1	0
15	Diseased Ankle Joint of 7 years standing .....	Leg	1	0
16	Diseased Elbow Joint.—Age 60 .....	Arm	0	1
17	Diseased Knee Joint.....	Thigh	1	0
18	Ditto ditto .....	Thigh	1	0
19	Ditto ditto .....	Thigh	1	0
20	Caries of Tibia and diseased Knee .....	Thigh	1	0
21	Diseased Ankle Joint .....	Leg	1	0
22	Diseased Ankle Joint .....	Leg	1	0
23	Diseased Knee Joint from burn .....	Thigh	1	0
24	Contraction of Arm and Abscess.....	Arm	1	0
25	Osteo Sarcoma of Femur.....	Thigh	1	0
Carried forward....			21	4

		Cured.	Died.
	Brought forward....	21	4
26	Mortification of Leg after ligature of Femoral Artery for Popliteal Anenrism; did well. Patient died two months afterwards from Pulmonary Apoplexy .....	Leg	0 1
27	Diseased Elbow Joint.....	Arm.	1 0
28	Gangrene of both Legs, two amputations, one following the other in 5 days. ....	Two Legs	1 0
29	Diseased Bones of Fore-Arm.....	Arm	1 0
30	Gangrene of Arm, after injury of Elbow .....	Arm	1 0
31	Gangrene of Arm.....	Arm	1 0
32	Caries of Tarsus. Hectic.....	Leg	1 0
33	Diseased Knee Joint. Hectic .....	Thigh	1 0
34	Caries of Patella and Abscess .....	Thigh	1 0
35	Diffused Anenrism of Femoral Artery.....	Thigh	1 0
36	Ulcerated Knee Joint. Extensive Abscess. Hectic. ....	Thigh	1 0
37	Diseased Ankle Joint. Caries, Hectic.....	Leg.	1 0
38	Mortification of Feet, both amputated.....	Two Legs	1 0
39	Diseased Elbow Joint.....	Arm	1 0
40	Diseased Knee. Ulceration of Cartilage.....	Thigh	1 0
—	—	—	35 5
40	—	—	—

Giving an average of one death in eight; or if we omit from the deaths, the two cases, in which the death followed the Amputation several months, and had no connection with it, 3 deaths in 40 or 1 in  $13\frac{1}{3}$ .

### TABLE VII.

*Other Operations performed in Northern Hospital, not contained in preceding Tables since March 10th, 1834, to December 31st, 1843.*

	Cases.	Cured.	Died.
Amputations of Breast .....	9	8	1
Hare Lip .....	3	3	0
Excision of Tumors .....	7	5	2
Testicles .....	3	2	1
Amputation Penis .....	2	2	0
Strangulated Hernia .....	12	6	6
Severe Contractions from Burns, removing cicatrix ..	3	3	0
Carried forward....	39	29	10

	Cases.	Cured.	Died.
Brought forward....	39	29	10
Lithotomy .....	4	4	0
Anenrism, including cases of External Iliac and Po- pliteal .....	4	4	0
Fistula in Ano .....	10	10	0
Extraction of loose Cartilages from Knee Joint	1	1	0
Tracheotomy .....	3	2	1
Paracentesis Thoracis .....	1	1	0
Operation for Ununited Fracture of Femur .....	1	1	0
Ditto      ditto      ditto      Tibia.....	1	1	0
Excision of Elbow Joint.....	2	2	0
Partial amputations of Hand and Foot .....	90	90	0
	156	145	11

TABLE VIII.

## TABLE OF DEATHS.

*Occurring in the Northern Hospital in the year 1843, with the duration of Treatment of each Case.*

No. of Cases.		No of Days each patient survived after Admission.					
2	Fever.....	6	11	..	..	..	..
1	Phlebitis .....	18	..	..	..	..	..
2	Acute Rheumatism (Pericarditis)	28	28	..	..	..	..
1	Disease of Brain (Melanosis) ..	24	..	..	..	..	..
2	Apoplexy .....	5	1	..	..	..	..
—	Paralysis .....	..	..	..	..	..	..
1	Delirium Tremens .....	2	..	..	..	..	..
3	Aneurism .....	1	6	1	..	..	..
2	Pneumonia .....	1	1	..	..	..	..
2	Acute Bronchitis .....	9	10	..	..	..	..
6	Chronic Bronchitis .....	5	4	1	3	8	1
1	Hæmoptysis .....	10	..	..	..	..	..
3	Phthisis .....	15	85	6	..	..	..
1	Cholera .....	1	..	..	..	..	..
3	Dysentery.....	14	15	12	..	..	..
1	Acute Peritonitis .....	8	..	..	..	..	..
2	Ascites and Anasarca .....	21	12	..	..	..	..
1	Bright's disease of Kidney....	86	..	..	..	..	..
1	Diabetes Mellitus.....	35	..	..	..	..	..
1	Cancer Uteri (Peritonitis)....	4	..	..	..	..	..
2	Scorbutus .....	4	30	..	..	..	..
1	Drowning .....	0	..	..	..	..	..
1	Hydrophobia .....	1	..	..	..	..	..
1	Caries of Spine .....	36	..	..	..	..	..
1	Concussion of Brain. Plenro Pneumonia.....	18	..	..	..	..	..
1	Scalp wound, Ruptured Spleen ..	4	..	..	..	..	..
8	Fractured Spine .....	1	41	2	1	19	32
1	Peritonitis in a case of Hernia ..	26	..	..	..	..	..
8	Burns and Scalds .....	1	19	7	1	2	1
2	Psoas Abscess.....	47	6	..	..	..	..
6	Fractured Skull .....	1	1	1	1	1	3
6	Compound complicated Fractures	11	17	1	23	1	60
1	Ruptured Liver .....	1	..	..	..	..	..
1	Ruptured Intestines .....	1	..	..	..	..	..
1	Strangulated Fem: Hernia....	2	..	..	..	..	..
1	Intoxication .....	1	..	..	..	..	..
78	Total.						

Giving a total of 78 Deaths in 1236 Patients, admitted into the Northern Hospital, from January 1st, 1843, to January 1st, 1844, being one death in 15 6-7ths.

Of these 42 occurred in 507 Medical cases, or 1 in 12 1-14th  
 36        "        731 Surgical        "        1 in 20 $\frac{1}{3}$ .

The average mortality of 63 European Hospitals, is 1 in 11. The greatest mortality being in the Maria Hospital, at St. Petersburg, being nearly 1 in 4; the least in the Catherine Hospital, at Stuttgart, being 1 in 40. In the Liverpool Infirmary 1 in 13 $\frac{1}{4}$ . If we add to the Patients in the Northern Hospital 352 Out-patients, the mortality is 1 in 22 $\frac{1}{4}$ . The average duration of treatment for each Patient in 3 German and 10 Parisian Hospitals, was 28 days. The maximum being 66 days in the Venereal Hospital at Paris, the minimum 20 days, in the Catherine Hospital at Stuttgart. The average duration of the treatment for each Patient in the Northern Hospital is for 1843, 23 $\frac{1}{2}$  days, that of the Medical Patients being 19 3-5th days, that of the Surgical Patients 24 4-7th.\* The average duration of the treatment of each Patient in the Liverpool Infirmary was 35 days, in the year 1841:

It will be seen by the above Table, that 25 Patients, out of 78, died on the day of admission, being such cases of disease or accident as are beyond the reach of either Medicine or Surgery, and 17 died within six days, the average duration being 3 $\frac{1}{2}$  days; consequently, 42 out of 78, of the deaths necessarily took place under circumstances of extreme gravity of disease.

99 Medical Patients were discharged from the Hospital within six days after admission, being either slight cases, incurable, or irregular.

The Out-patients being excluded from the general return in these calculations, they differ from some in the 18th page of the pamphlet.

\* See note, page 19.

TABLE IX.

**A SYNOPTICAL TABLE OF THE MEDICAL CASES  
TREATED BY THE PHYSICIANS  
DRS. HANNAY AND CARSON,**

During the Year, commencing 1st January, 1843, and terminating 1st January, 1844.  
with the results and average duration of the treatment of each form of disease.

DISEASE.	No of Cases	Cured	Relieved	Discharged as incurable	Dead	Dismissed for irrecu- larity or al- ien request	Average length of time in Hospital	Time Maximum.	Time Minimum.	No of days that these cases occupied by each disease
Typhus Fever . . . . .	4	..	3 sent to ward	..	1	..	24	6	1	9
Febricula, simple con- tinued Fever . . . . .	15	15	..	..	..	..	12 $\frac{1}{2}$	29	1	172
Intermittent Fever . . . . .	23	23	..	..	1	..	12 $\frac{3}{4}$	32	2	292
Phlebitis . . . . .	1	..	..	..	..	..	16	..	..	16
Acute and Sub-acute Rheumatism . . . . .	88	88	..	..	..	..	13 $\frac{1}{2}$	36	2	1203
Chronic Rheumatism . . . . .	28	28	..	..	..	..	45 $\frac{1}{2}$	..	30	1280
Disease of Brain, Melanosis . . . . .	1	..	..	..	1	..	24	..	..	24
Apoplexy . . . . .	3	..	1	..	2	..	3	5	1	9
Paralysis . . . . .	9	4	5	..	..	..	17 $\frac{1}{2}$	55	3	158
Hysteria . . . . .	6	6	..	..	..	..	3 $\frac{1}{2}$	12	1	22
Epilepsy . . . . .	4	4	..	..	..	..	8 $\frac{1}{2}$	30	1	35
Chorea . . . . .	1	1	..	..	..	..	47	..	..	47
Delirium Tremens . . . . .	7	5	..	..	2	..	7 4-7ths	17	1	53
Neuralgia . . . . .	19	19	..	..	..	..	24 3-5ths	117	2	472
Sciatica . . . . .	3	3	..	..	..	..	12	13	11	36
Hydrophobia . . . . .	1	..	..	..	J	..	1	..	..	1
Caries of Spine . . . . .	1	..	..	..	1	..	35	..	..	35
Intoxication . . . . .	6	5	..	..	1	..	1-1 6th	2	1	7
Pneumonia . . . . .	7	5	..	..	2	..	14 1-7th	27	1	101
Pleuritis . . . . .	7	7	..	..	..	..	20 $\frac{1}{2}$	54	13	142
Quinsy . . . . .	1	1	..	..	..	..	23	..	..	23
Oedema Glottidis Laryn- gotomy . . . . .	1	1	..	..	..	..	9	..	..	9
Acute and Sub-acute Bronchitis . . . . .	62	60	..	..	2	..	14 $\frac{1}{2}$	30	3	900
Chronic Bronchitis . . . . .	10	1	3	..	6	..	15	59	3	135
Hæmoptysis . . . . .	2	1	..	..	..	..	10 $\frac{1}{2}$	20	1	21
Phthisis . . . . .	27	..	..	24	3	..	19 $\frac{1}{2}$	85	1	532
Diseased Heart . . . . .	7	..	5	..	2	..	20	48	6	140
Aneurisms . . . . .	3	..	..	..	3	..	..	..	..	6
Epistaxis . . . . .	1	1	..	..	..	..	10	..	..	10
Gastric Irritation . . . . .	18	17	..	..	..	1	15 $\frac{1}{2}$	48	3	275
Hæmatemesis . . . . .	2	2	..	..	..	..	31	33	29	62
Poisoning—opium . . . . .	1	1	..	..	..	..	30	..	..	30
Cholera . . . . .	1	..	..	..	1	..	1	..	..	1
Ieterus . . . . .	1	1	..	..	..	..	27	..	..	27
Dysentery . . . . .	15	12	..	..	3	..	23 $\frac{1}{2}$	51	3	350
Vermes . . . . .	1	1	..	..	..	..	10	..	..	10
Hæmorrhoids . . . . .	2	2	..	..	..	..	23	41	5	46
Acute Peritonitis . . . . .	1	..	..	..	1	..	8	..	..	8
Chronic do. . . . .	1	1	..	..	..	..	30	..	..	30
Abdominal Tumor . . . . .	1	1	..	..	..	..	32	..	..	32
Ascites and Anasarca . . . . .	3	..	..	..	2	1	6	10	3	18
Bright's disease . . . . .	7	2	4	..	1	..	54 $\frac{1}{2}$	135	24	380
Gravel . . . . .	1	..	..	..	..	1	..	..	..	1
Gouorrhœa . . . . .	8	8	..	..	..	..	13 $\frac{1}{2}$	28	5	110
Hæmaturia . . . . .	3	2	1	..	..	..	8 $\frac{1}{2}$	10	6	25
Diabetes Mellitus . . . . .	2	0	1	..	1	..	52	67	35	102
Ditto Insipidus . . . . .	1	1	..	..	..	..	11	..	..	11
Cancer Uteri (Peritonitis) . . . . .	1	..	..	..	1	..	4	..	..	4
Uterine Hæmorrhage . . . . .	1	1	..	..	..	..	18	..	..	18
Amenorrhœa . . . . .	7	7	..	..	..	..	24 3-7ths	55	8	171
Leucorrhœa . . . . .	2	2	..	..	..	..	8	14	2	16
Conjunctivitis . . . . .	3	3	..	..	..	..	14 $\frac{1}{2}$	24	4	44
Iritis Syphilitica . . . . .	11	11	..	..	..	..	36 $\frac{1}{2}$	60	11	405
Serofula . . . . .	7	1	6	..	..	..	32 4-7ths	70	6	228
Scorbutus . . . . .	10	7	..	..	2	1	15 1-5th	45	3	152
Secondary Syphilis . . . . .	25	24	..	..	..	1	20 $\frac{1}{2}$	57	11	513
Purpura Simplex . . . . .	1	1	..	..	..	..	15	..	..	15
Diseases of the Skin . . . . .	19	19	..	..	..	..	52 4-5ths	180	5	1004
Immersion . . . . .	4	3	..	..	1	..	10	0	..	10
Total . . . . .	508	408	29	24	42	5	24 $\frac{1}{2}$	..	..	..

TABLE X.

## A REPORT OF THE ACCIDENTS AND OPERATIONS

Occurring in the Liverpool Infirmary, from March, 1834, to March, 1836, being the only published record of the Surgical practice.

	Ad- mitted	Cured.	Died.
Wounds of the flesh, more or less extensive in all parts of the body,	59	58	1
Bruises and Sprains .....	110	109	1
Gangrene, from frost bite .....	17	15	2
Burns and Seals .....	57	34	23
Attempt at poisoning .....	2	2	—
	245	218	27
Simple fractures of the upper extremities .....	34	32	2
— lower ditto .....	82	79	3
— bones of the trunk .....	32	31	1
	148	142	6
Total number of simple fractures .....			
Fractures, complicated with injuries, more or less serious, of the structures surrounding, or in connection with, the bones, as well as of the bones themselves, of the upper extremities .....	5	4	1
— lower ditto .....	13	9	4
	18	13	5
Fractures, extending into the joints, and implicating, at the same time, the bones of both the extremities, and those of the chest and of the skull; these accidents are always of a grave character. the crushing force having been enormous; indeed, almost all of this class survived only a few hours after their admission .....	12	1	11
Injuries of Head, comprehending simple and compound fracture. concussion and laceration of the scalp .....	47	39	9
Injuries of the spine—fracture 7, concussion 3 .....	10	3	7
Dislocations (simple.)			
upper extremity .....	27	27	—
lower ditto including hip joint and sacrum .....	4	3	1
Simple dislocations—total .....	31	30	1
Dislocations (compound.)			
upper extremity 4—lower extremity 5 .....	9	8	1
Total number of casualties .....	520	453	67
OPERATIONS PERFORMED.			
Amputation of upper extremities, including one of the shoulder joint .....	20	19	1
Amputation of lower extremities—three individuals lost two legs each	23	21	2
	43	40	3
Tumours removed, including diseased mammae .....	10	8	2
Lithotomy—lateral operation .....	2	2	—
Operation for strangulated hernia .....	4	3	1
Reduced by the taxis (4)—operations of less importance, including tapping .....	21	18	3
	37	31	6
Total number of operations performed .....	80	71	9

